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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,029	12/29/2000	Robert H. Wilson	LEAR 0671 PUSP	7720
7590 06/15/2004			EXAMINER	
Matthew R. Mowers Brooks & Kushman P.C. 22nd Floor 1000 Town Center Southfield, MI 48075-1351			KAO, CHIH CHENG G	
			ART UNIT	PAPER NUMBER
			2882	
DATE MAILED: 06/15/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/751,029	Applicant(s) WILSON, ROBERT H.	
	Examiner Chih-Cheng Glen Kao	Art Unit 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 2, 4-7, and 11-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida (US Patent 6304178).

2. With regards to claims 1 and 12, Hayashida discloses a non-contact optoelectronic system and method for automatic door closure to detect the presence of an obstruction (Abstract), the system comprising at least one transmitter (Fig. 3, #24a-n) and sensor (Fig. 3, #24a'-n') for detecting the signal emitted by the at least one transmitter, a control module for monitoring and processing signal interrupts to detect an obstruction (col. 12, lines 57-63) and a motor control signal to stop and reverse upon detection of an obstruction in a window (col. 26, lines 3-6). Hayashida further discloses an entry area defined by a passage in a body, a door jamb, and a door (Fig. 21).

However, Hayashida does not specifically disclose employing the system with a motor vehicle door.

Hayashida further teaches that this system may be employed with a motor vehicle door (col. 1, lines 5-10).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the system of Hayashida with a motor vehicle door, since one would be motivated to incorporate it for safety as shown by Hayashida (col. 26, lines 9-11) and since it would have been obvious to incorporate it for different applications as shown by Hayashida (col. 1, lines 5-13, and col. 26, lines 42-47) for safety.

It also would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the system of Hayashida with a motor vehicle, since Hayashida discloses that these applications are art-recognized equivalents (col. 1, lines 5-10) and would have found it obvious to adapt the system into various applications. Secondly, it would have been obvious, to modify the entry area as shown by Hayashida (Figs. 3, 10, 12, 13, 21, 23, 24, 28A, 29, 32A, and 36A, and col. 26, lines 18-20) to ensure that something does not collide with the door (see Figs. 1 and 13 for example).

3. With regards to claims 4 and 15, Hayashida further discloses a pair of transmitters on an inner surface of the door (Fig. 3, #4 and 24a-n).

4. With regards to claims 5-7, 16, and 17, Hayashida further discloses sensors in an array on an inner surface of a door jamb (col. 3, lines 48-54, and Fig. 3).

5. With regards to claims 14 and 19 and for purposes of being concise, Hayashida suggests a system and method as recited above. Hayashida further discloses the control module activating

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the transmitter and sensor upon a signal from a switching mechanism to close (col. 25, lines 61-66).

6. With regards to claims 2, 13, and 20, Hayashida further discloses the control module processing signal interrupts and comparing them against stored values to determine an obstruction (col. 12, lines 57-63).

7. With regards to claims 11, 18, and 21, Hayashida further discloses infrared light (col. 5, lines 50-51).

8. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida as applied to claim 1 above, and further in view of Chapdelaine et al. (US Patent 6157024).

9. With regards to claims 8 and 9, Hayashida suggests a device as recited above.

However, Hayashida does not disclose a reflective coating on the inner surface of a door and door jamb to reflect the emitted signal.

Chapdelaine et al. further discloses a reflective coating on the inner surface to reflect the emitted signal (col. 11, lines 42-52).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the suggested device of Hayashida with the reflective coating of Chapdelaine et al., since one would be motivated to increase reflectance to improve detector signal-to-noise ratio as implied from Chapdelaine et al. (col. 3, lines 1-10) for a better signal.

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It would also have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the suggested device of Hayashida in view of Chapdelaine et al. with reflective coatings on a door and door jamb, since rearranging parts of an invention involves only routine skill in the art as shown by Chapdelaine et al. (Fig. 2). One would be motivated to have the reflective coatings in the periphery, such as a door or door jamb, to cover areas where an object may be pinched as shown by Chapdelaine et al. (Fig. 2).

10. With regards to claim 10, Hayashida in view of Chapdelaine et al. suggests a device as recited above.

However, Hayashida does not disclose a metallic reflective coating.

Chapdelaine et al. further discloses a metallic reflective coating (col. 12, lines 35-50).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the suggested device of Hayashida in view of Chapdelaine et al. with the metallic reflective coating, since one would be motivated to increase reflectance to improve a detector's signal-to-noise ratio as implied from Chapdelaine et al. (col. 3, lines 1-10) for a better signal.

11. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida as applied to claim 19 above, and further in view of Boiucaner (US Patent 5142152).

Hayashida suggests a method as recited above.

However, Hayashida does not disclose a hardware fault detection of obstruction detection during the opening of an automatic door, wherein the step further comprises sending a pulse of infrared light from the transmitter to the sensor to test the system.

Boiucaner teaches a hardware fault detection of obstruction detection during the opening (col. 8, lines 15-20) of an automatic door (Fig. 1), wherein the step further comprises sending a pulse of infrared light (col. 4, lines 22-30) from the transmitter to the sensor (Fig. 1) to test the system (Fig. 10).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the suggested method of Hayashida with hardware fault detection of Boiucaner, since one would be motivated to run this test to insure that something that is being registered as an obstruction is an obstruction to be concerned with as implied from Boiucaner (col. 8, lines 15-30).

Response to Arguments

12. Applicant's arguments filed May 24, 2004, have been fully considered but they are not persuasive.

Regarding Hayashida, Applicant argues that Hayashida does not explicitly teach or suggest applying the proximity detection system to an automatic door closure system for a motor vehicle. The Examiner disagrees. Although Hayashida does not seem to explicitly disclose a specific example of the proximity detection system with an automatic door closure system for a motor vehicle, the incorporation of a proximity detection system with an automatic door closure system for a motor vehicle is still an obvious modification as noted above. To further illustrate

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this point, see column 2, line 52, to column 3, line 16. In column 2, lines 61-67, Hayashida notes that in the case of automatic door systems or automatic window systems used for vehicles such as trains, automobiles, or the like, a non-contact-type door safety system is not practically used in the prior art. However, with the invention of Hayashida (col. 3, lines 1-5), such systems can now be incorporated, since the present invention of Hayashida substantially eliminates the defects and drawbacks encountered in the prior art for a door safety system. Therefore, one of ordinary skill in the art, would have found it obvious to incorporate the invention of Hayashida with an automatic door system used for a vehicle such as a train, automobile, or the like, or into an automatic window system used for a vehicle such as a train, automobile, or the like. In conclusion, Hayashida does suggest applying the proximity detection system to an automatic door closure system for a motor vehicle.

The detailed description and specific examples, as noted by Hayashida (col. 3, lines 55-63, and col. 26, lines 42-48), are given by way of illustration only, since various changes and modifications are apparent to those skilled in the art. Although one specific example of Hayashida shows a proximity detection system for a window of a motor vehicle, a modification incorporating a proximity detection system with an automatic door of a motor vehicle would have been obvious (col. 2, lines 61-67), to one of ordinary skill in the art at the time the invention was made, for safety motivations.

Although Hayashida does not seem to explicitly present an example of an art-recognized equivalent to Applicant's claimed invention, a proximity detection system incorporated with the art-recognized equivalents of doors and windows in elevators, trains, or motor vehicles, is an

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obvious modification as implied from Hayashida (col. 1, lines 5-13, and col. 2, lines 52-67) and as explained above.

Regarding Chapdelaine et al., Applicant argues that Chapdelaine et al. is non-analogous art to the Applicant's claimed invention. The Examiner disagrees and considers the reference as analogous art by one of ordinary skill in the art as implied from Hayashida (col. 1, lines 5-13, and col. 2, lines 52-67). Furthermore, these references are considered analogous to the Applicant's claimed invention in that all these systems are related to detection of obstructions in pinch prevention systems.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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